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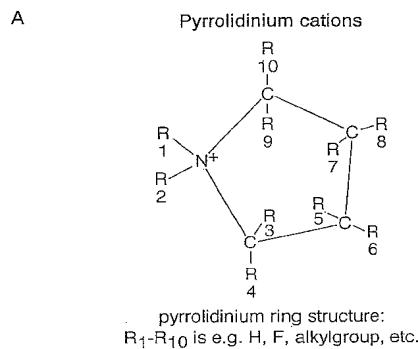
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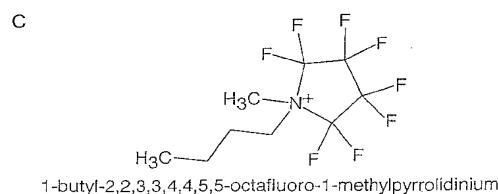
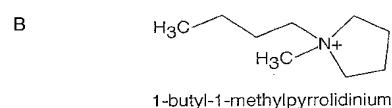
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*[Continued on next page]*

## (54) Title: ELECTROCHEMICAL ELEMENT FOR USE AT HIGH TEMPERATURES



**(57) Abstract:** An electrochemical element for use at a high temperature has an anode, a cathode comprising an intercalation material having an upper reversible potential-limit of at most 4 V versus Li/Li<sup>+</sup> as active material, and an electrolyte arranged between the cathode and anode, which electrolyte comprises an ionic liquid with an anion and a cation comprising a pyrrolidinium ring structure having four Carbon atoms and one Nitrogen atom. Experiments revealed that rechargeable batteries comprising such an intercalation material and N-R<sub>1</sub>-N-R<sub>2</sub>-pyrrolidinium, wherein R<sub>1</sub> and R<sub>2</sub> are alkyl groups and R<sub>1</sub> may be methyl and R<sub>2</sub> may be butyl or hexyl, are particularly suitable for use at a temperature of up to about 150 degrees Celsius and may be used in oil and/or gas production wells.





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